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PPG Industries, Inc.
Law-Intellectual Property
One PPG Place
Pittsburgh, PA 15272

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| EXAMINER |
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SERGEANT, RABON A

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| ART UNIT | PAPER NUMBER |
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1711

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,023

Applicant(s)

BOJKOVA ET AL.

Examiner

Rabon Sergeant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-98 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-98 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/24/04, 7/12/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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1. It is requested that applicants amend the continuing data within the specification to reflect the correct status of the parent application.

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 1-27, 29-35, 37-39, 41-58, 60-62, and 64-98 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-27, 29-35, 37-39, 43-60, 62-64, 66-76, and 78-101 of copending Application No. 11/141,636. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

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F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 28, 36, 40, 59, and 63 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 28, 36, 40-42, 61, and 77 of copending Application No. 11/141,636. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims encompasses equivalent reactant species.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-33, 37-56, 60-75, and 82-98 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 11-36, 41-64, and 69-102 of copending Application No. 09/695,325. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims is drawn to polymeric materials having overlapping properties and methods of making

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them, wherein the materials are derived from reactants that are obvious variants in view of each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-33, 37-56, 60-75, and 82-98 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 11-40, 45-74, and 79-119 of copending Application No. 09/695,332. Although the conflicting claims are not identical, they are not patentably distinct from each other because each set of claims is drawn to polymeric materials having overlapping properties and methods of making them, wherein the materials are derived from reactants that are obvious variants in view of each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 22 and 49 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants have provided no enablement for the production of a polyether polyol having the claimed formula. The claimed formula requires that the groups form "head-tail"- "tail-head" structures and further requires that repeating groups form peroxide linkages. Furthermore, applicants have provided no guidance that would instruct one how to prepare polyethers having values of "n" as high as 6.

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9. Claims 1-90 and 92-98 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants have provided no definition of what is meant by “at least partially cured”. The instant the reactants are brought together satisfies this language, since some degree of reaction will occur.

10. Claims 1-90 and 92-98 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As aforementioned, applicants have not defined “at least partially cured”; therefore, the language is considered to be met the instant the reactants are brought together. Accordingly, applicants have provided no enablement for liquid “at least partially cured” polyureaurethanes having the claimed physical properties. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

11. Claims 1-98 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Throughout the specification, applicants have referred to polycyanates and have discussed them as though they are equivalent to polyisocyanates; however, this is not the case.

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Polyisocyanates are distinct from polycyanates. Therefore, it is unclear from applicants' specification if there are to be cyanate groups present within the reactants.

12. Claims 1-98 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Within the claims, it is unclear what limitation or process step or modification is encompassed by the language, "adapted to have". It cannot be determined what significance is set forth by the language.

With respect to claims 1, 70, 75, 82, 89, 90, 92, 97, and 98, the language, "at least partially cured", renders the claims indefinite, because there is no way of determining what degree of cure is denoted by the language.

Within the claims, "dimers" has been spelled incorrectly.

With respect to claim 7, the polymer has an impact strength, as opposed to comprises an impact strength.

With respect to claim 20, the reference to "thiocyanate" lacks antecedence.

With respect to claims 20, 23, and 24, the ratios, as claimed, are confusing. For example, within claim 23, is the ratio 5.5:1.0 or is the range 5.5:1 to 1.0:1 intended? Also, within claims 23 and 24, "molar" has been spelled incorrectly. Furthermore, within claim 24, the significance of "NR" is not understood.

Throughout the claims, applicants have referred to "polycyanate"; however, polycyanates are not equivalent to polyisocyanates and do not encompass polyisocyanates. The use of the

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term in conjunction with isocyanates is unnecessarily confusing. Furthermore, applicants' use of the term is repugnant to its art-recognized meaning

Within claim 28, cyclohexylmethane is neither polycyanate nor polyisocyanate. Furthermore, it is unclear what isomers are being referred to. Also, the reference to "material" in line 1 lacks antecedence.

With respect to claims 22 and 49, the claimed formula renders the claims indefinite, because there is no requirement that the respective ether groups or variables be different. Further, the structure set forth by the formula is deemed to be improper for the reasons set forth within paragraph 8.

With respect to 22, 35, 36, 49, 58, and 59, the use of "can" renders the claims indefinite, because the word merely sets forth an optional embodiment; therefore, the variables are interpreted as having essentially no definition.

With respect to claims 36 and 59, it is unclear what material or compound is defined by formula (IV'i). Clarification with respect to what is intended is required.

With respect to claims 17, 26, 27, 28, 30, 33, 47, 52, 53, 56, 63-66, 68, 72-74, 83, and 96, applicants have set forth improper Markush groups. Firstly, "chosen" is not accepted Markush terminology. Secondly, the species should be set forth in the alternative.

The subject matter of claims 67-69 lacks antecedence from claim 6.

Within claims 75 and 82, the language, "wherein adapted to have" is improper and cannot be understood; what is adapted to have?

Within claims 92, 97, and 98, it is unclear how the substrate relates to the polyureaurethane.

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13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 1-7, 89, and 90 are rejected under 35 U.S.C. 102(b) as anticipated by Kanemura et al. ('055).

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Patentees disclose polythiourethanes and their use in the production of lenses having Abbe numbers and refractive indices that meet the instantly claimed values. See abstract and examples. Patentees further disclose that the composition has excellent impact resistance and is lightweight; therefore, the instantly claimed impact strength and density are considered to be inherent properties of the composition. See column 8, lines 13-16. Lastly, patentees disclose at column 7, lines 46, 47, and 55-57 that urea groups may be incorporated through reaction with amines; therefore, patentees are considered to disclose sulfur-containing polyureaurethanes having applicants' claimed properties.

15. Claims 91-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanemura et al. ('055).

As aforementioned, patentees disclose polythiourethanes and their use in the production of lenses having Abbe numbers and refractive indices that meet the instantly claimed values. See abstract and examples. Patentees further disclose that the composition has excellent impact resistance and is lightweight; therefore, the instantly claimed impact strength and density are considered to be inherent properties of the composition. See column 8, lines 13-16. Lastly, patentees disclose at column 7, lines 46, 47, and 55-57 that urea groups may be incorporated through reaction with amines; therefore, patentees are considered to disclose sulfur-containing polyureaurethanes having applicants' claimed properties.

16. However, patentees fail to disclose photochromic articles derived from the disclosed lens materials. Still, in view of the disclosure that patentees' materials are suitable for the production of lenses having excellent optical properties and in view of the fact that photochromic articles

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produced from such materials were well-known at the time of invention, the position is taken that it would have been obvious to produce photochromic articles from the disclosed composition.

17. Claims 1-7, 41-43, 45, 50-56, 67-69, and 89-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. ('495).

Patentees disclose optical quality polymers having applicants' claimed refractive index and Abbe number produced from an episulfide compound, an iso(thio)cyanate, a compound containing at least one mercapto group, and a catalytic compound, wherein the catalytic compound may be a primary diamine. See abstract and columns 16-19. The position is taken that the product resulting from these reactants is a sulfur-containing polyureaurethane. The position is taken that one of ordinary skill in the art would have been motivated to select the aforementioned amine compounds from the disclosed listing, as one would have reasonably expected any of the catalytic compounds to yield a viable product. Furthermore, patentees fail to disclose photochromic articles derived from the disclosed lens materials; however, in view of the disclosure that patentees' materials are suitable for the production of lenses having excellent optical properties and in view of the fact that photochromic articles produced from such materials were well-known at the time of invention, the position is taken that it would have been obvious to produce photochromic articles from the disclosed composition.

18. Claims 1-16, 18-20, 23-29, 31-33, 36-46, 48, 50-56, 59-65, 69-75, and 77-90 are rejected under 35 U.S.C. 102(e) as being anticipated by Jallouli et al. (US 2003/0144452 A1).

The reference discloses transparent, high index polythiourethane/urea materials suitable for use as lenses, wherein the polymer is produced from the reaction of an amine curing agent,

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preferably a sulfur containing amine curing agent, and a prepolymer, derived from diiso(thio)cyanates and diols or thiols. See abstract and paragraphs [0018] through [0071].

19. Claims 66-68 and 91-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jallouli et al. (US 2003/0144452 A1).

As aforementioned, the reference discloses transparent, high index polythiourethane/urea materials suitable for use as lenses, wherein the polymer is produced from the reaction of an amine curing agent, preferably a sulfur containing amine curing agent, and a prepolymer, derived from diiso(thio)cyanates and diols or thiols. While the reference discloses that non-sulfur containing amine curing agents can be used, the reference is silent regarding the amines of claims 66-68; however, the position is taken that these amines were conventional within the urethane art at the time of invention and that it would have been obvious to utilize them in their known capacity as such. Furthermore, the reference fails to disclose photochromic articles derived from the disclosed lens materials; however, in view of the disclosure that patentees' materials are suitable for the production of lenses having excellent optical properties and in view of the fact that photochromic articles produced from such materials were well-known at the time of invention, the position is taken that it would have been obvious to produce photochromic articles from the disclosed composition.

20. Claims 1-33, 37-56, 60-75, and 77-98 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 01/36508 or WO 01/36507.

The references disclose transparent, high index polythiourethane/urea materials suitable for use as lenses and photochromic articles, wherein the polymer is produced from the reaction

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of an amine curing agent and a prepolymer, derived from iso(thio)cyanates, thiols, and diols.

See abstracts and entire disclosures.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (571) 272-1079.

R. Sergent
September 29, 2005


RABON SERGENT
PRIMARY EXAMINER